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## SEQUENCE LISTING

&lt;110&gt; SYNGENTA LIMITED

&lt;120&gt; ENHANCED ACCUMULATION OF CAROTENOIDS IN PLANTS

&lt;130&gt; 70237/WO

&lt;150&gt; US60/457,053

&lt;151&gt; 2003-03-24

&lt;160&gt; 38

&lt;170&gt; PatentIn version 3.1

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&lt;212&gt; DNA

&lt;213&gt; SYNTHETIC - 12423

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&lt;210&gt; 10

&lt;211&gt; 1233

&lt;212&gt; DNA

&lt;213&gt; Zea mays

&lt;400&gt; 10

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-32-

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&lt;210&gt; 11

&lt;211&gt; 1233

&lt;212&gt; DNA

&lt;213&gt; Zea mays

&lt;400&gt; 11

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-33-

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&lt;210&gt; 12

&lt;211&gt; 1233

&lt;212&gt; DNA

&lt;213&gt; Zea mays

&lt;400&gt; 12

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-34-

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 ctcccatggtt cattgagaaa tggccagacc tag 1233

&lt;210&gt; 13

&lt;211&gt; 1263

&lt;212&gt; DNA

&lt;213&gt; Oryza sp.

<400> 13  
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-35-

tag

1263

&lt;210&gt; 14

&lt;211&gt; 420

&lt;212&gt; PRT

&lt;213&gt; Oryza sp.

&lt;400&gt; 14

Met Ala Ala Ile Thr Leu Leu Arg Ser Ala Ser Leu Pro Gly Leu Ser  
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Asp Ala Leu Ala Arg Asp Ala Ala Ala Val Gln His Val Cys Ser Ser  
 20 25 30

Tyr Leu Pro Asn Asn Lys Glu Lys Lys Arg Arg Trp Ile Leu Cys Ser  
 35 40 45

Leu Lys Tyr Ala Cys Leu Gly Val Asp Pro Ala Pro Gly Glu Ile Ala  
 50 55 60

Arg Thr Ser Pro Val Tyr Ser Ser Leu Thr Val Thr Pro Ala Gly Glu  
 65 70 75 80

Ala Val Ile Ser Ser Glu Gln Lys Val Tyr Asp Val Val Leu Lys Gln  
 85 90 95

Ala Ala Leu Leu Lys Arg His Leu Arg Pro Gln Pro His Thr Ile Pro  
 100 105 110

Ile Val Pro Lys Asp Leu Asp Leu Pro Arg Asn Gly Leu Lys Gln Ala  
 115 120 125

Tyr His Arg Cys Gly Glu Ile Cys Glu Glu Tyr Ala Lys Thr Phe Tyr  
 130 135 140

Leu Gly Thr Met Leu Met Thr Glu Asp Arg Arg Arg Ala Ile Trp Ala  
 145 150 155 160

Ile Tyr Val Trp Cys Arg Arg Thr Asp Glu Leu Val Asp Gly Pro Asn  
 165 170 175

Ala Ser His Ile Thr Pro Ser Ala Leu Asp Arg Trp Glu Lys Arg Leu  
180 185 190

Ser Asp Thr Ile Ser Lys Phe Pro Ile Asp Ile Gln Pro Phe Arg Asp  
210 215 220

Met Ile Glu Gly Met Arg Ser Asp Leu Arg Lys Thr Arg Tyr Lys Asn  
225 230 235 240

Phe Asp Glu Leu Tyr Met Tyr Cys Tyr Tyr Val Ala Gly Thr Val Gly  
245 250 255

Leu Met Ser Val Pro Val Met Gly Ile Ala Pro Glu Ser Lys Ala Thr  
260 265 270

Thr Glu Ser Val Tyr Ser Ala Ala Leu Ala Leu Gly Ile Ala Asn Gln  
275 280 285

Leu Thr Asn Ile Leu Arg Asp Val Gly Glu Asp Ala Arg Arg Gly Arg  
290 295 300

Ile Tyr Leu Pro Gln Asp Glu Leu Ala Glu Ala Gly Leu Ser Asp Glu  
305 310 315 320

Asp Ile Phe Asn Gly Val Val Thr Asn Lys Trp Arg Ser Phe Met Lys  
325 330 335

Arg Gln Ile Lys Arg Ala Arg Met Phe Phe Glu Glu Ala Glu Arg Gly  
340 345 350

Val Thr Glu Leu Ser Gln Ala Ser Arg Trp Pro Val Trp Ala Ser Leu  
355 360 365

Leu Leu Tyr Arg Gln Ile Leu Asp Glu Ile Glu Ala Asn Asp Tyr Asn  
370 375 380

Asn Phe Thr Lys Arg Ala Tyr Val Gly Lys Ala Lys Lys Leu Leu Ala  
385 390 395 400

Leu Pro Val Ala Tyr Gly Arg Ser Leu Leu Met Pro Tyr Ser Leu Arg  
405 410 415

-37-

Asn Ser Gln Lys  
420

&lt;210&gt; 15

&lt;211&gt; 1260

&lt;212&gt; DNA

&lt;213&gt; Capsicum annuum

&lt;400&gt; 15

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&lt;210&gt; 16

-38-

&lt;211&gt; 1239

&lt;212&gt; DNA

<213> *Lycopersicon esculentum*

&lt;400&gt; 16

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&lt;210&gt; 17

&lt;211&gt; 891

&lt;212&gt; DNA

<213> *Erwinia* sp.

-39-

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&lt;210&gt; 18

&lt;211&gt; 1479

&lt;212&gt; DNA

<213> *Erwinia* sp.

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 tatgtctacg aggatcaggg gtttaccttt gatgcaggcc cgacggttat caccgatccc 180  
 agtgccattg aagaactgtt tgcactggca ggaaaacagt taaaagagta tgtcgaactg 240  
 ctgccgggta cgccgtttta ccgcctgtgt tgggagtcag ggaaggctct taattacgat 300  
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&lt;210&gt; 19

&lt;211&gt; 1488

&lt;212&gt; DNA

<213> *Erwinia* sp.

&lt;400&gt; 19

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accgatccca gtgccattga agaactgttt gcaactggcag gaaaacagtt aaaagagtat 240

gtcgaactgc tgccgggttac gccgttttac cgctgtgtt gggagtcagg gaaggctctt 300

aattacgata acgatcaaac ccggctcgaa gcgcagatc agcagtttaa tccccgcgat 360

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-41-

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cagactaagc gcatgagtaa ctctctgttt gtgctctatt ttggtttgaa tcaccatcat      960
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&lt;210&gt; 20

&lt;211&gt; 839

&lt;212&gt; DNA

<213> *Oryza* sp.

&lt;400&gt; 20

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-42-

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&lt;210&gt; 21

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; Oryza sp.

&lt;400&gt; 21

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&lt;210&gt; 22

&lt;211&gt; 190

&lt;212&gt; DNA

&lt;213&gt; SYNTHETIC - INTRON

-43-

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&lt;210&gt; 23

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; TRANSIT PEPTIDE

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&lt;210&gt; 24

&lt;211&gt; 254

&lt;212&gt; DNA

&lt;213&gt; NOS TERMINATOR

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&lt;210&gt; 25

&lt;211&gt; 193

&lt;212&gt; DNA

&lt;213&gt; CAMV 35S TERMINATOR REGION

-44-

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<210> 26

<211> 238

<212> DNA

<213> POTATO PROTEINASE INHIBITOR GENE TERMINATOR REGION

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 ttactaatta tctgaataag agaaagagat catccatatt tcttatccta aatgaatgtc 180  
 acgtgtcttt ataattcttt gatgaaccag atgcatttta ttaaccaatt ccatatac 238

<210> 27

<211> 2321

<212> DNA

<213> Lycopersicon esculentum

<400> 27  
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-45-

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&lt;210&gt; 28

&lt;211&gt; 1749

&lt;212&gt; DNA

<213> *Capsicum annuum*

&lt;400&gt; 28

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-47-

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&lt;210&gt; 29

&lt;211&gt; 2264

&lt;212&gt; DNA

&lt;213&gt; Zea mays

&lt;400&gt; 29

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-48-

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&lt;210&gt; 30

&lt;211&gt; 2027

&lt;212&gt; DNA

<213> *Oryza* sp.

&lt;400&gt; 30

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&lt;210&gt; 31

&lt;211&gt; 1931

&lt;212&gt; DNA

<213> *Lycopersicon esculentum*

&lt;400&gt; 31

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&lt;210&gt; 32

&lt;211&gt; 1982

&lt;212&gt; DNA

&lt;213&gt; Capsicum annuum

&lt;400&gt; 32

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-52-

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&lt;213&gt; Zea mays

&lt;400&gt; 33

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-54-

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&lt;212&gt; DNA

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&lt;400&gt; 36

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&lt;210&gt; 38

-56-

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